

Fresno County 4-H



Poultry Study Guide

MARCH 2017

4-H Poultry Project Overview

Historically, humans and poultry have interacted in many ways beyond owning chickens as farm animals. From domesticated fowl being used for meat and egg production to fancy breeds being shown in competition, ducks, chickens, turkeys, and other poultry are a huge part of many cultures around the world. In 4-H, youth in the Poultry Project can learn:



- Caring for and raising chickens responsibly and humanely.
- Best management practices used on farms and industry.
- Value of poultry meat and eggs in human nutrition and how to grade eggs.
- Showmanship and showing techniques; breeds and anatomy of various types of poultry.

Poultry Information

Hens, Breeding, and Laying Eggs

A good laying hen can lay as many as 365 eggs in a year.

To keep hens happy one nesting box, per 5 hens, should

be offered for laying their eggs. Hens need calcium to

produce the shell of the eggs they lay. Feeding them a well-balanced diet of laying pellets/crumble and oyster shells will ensure they get the calcium they need.



If a flock of hens stop laying eggs in the fall, maintaining light for 16 hours a day can help the hens to continue to lay eggs year round.

Hens do not need a rooster to lay eggs. She only needs the presence of a male for fertile eggs to be produced.

When it comes to chickens, "dual purpose" refers to a chicken that can be used for both meat and egg production. Examples are Rhode Island Reds, New Hampshire's, White and Barred Plymouth Rocks, etc.

Sometimes in breeding flocks feather loss is noticed on the lower back and the back of the head of some females. The cause of this is when breeding; the males stand on the back of the females, and hold onto the feathers on the back of the head

with their beak, causing loss of feathers in those areas. To prevent the loss of feathers, make sure that there is at least one rooster for every ten hens.

Poultry Nutrition

There are several types of feeds available for poultry. The most common feed ingredients used in poultry diets in the United States are corn and soybean meal.



Three of the most common are: starter feed that is fed to chicks (0-10 weeks).

Starter feed is available in both medicated and unmedicated; it has an 18%-19% protein. Grower feed is fed to pullets 10 weeks-starting to lay eggs, it has a 14%-15% protein. Laying hens are fed a laying feed that has a 16%-17% protein. The main difference between starter feed, grower feed and layer feed is their protein levels.

Chickens and other poultry require the following nutrient each day: protein, carbohydrate, fat, minerals, vitamins, water, and oxygen. The one nutrient, other than oxygen, that poultry must have free access to at all times is water.

The yellow color in a chicken's skin, beak and shanks comes from the Xanthophyll from corn and grass they eat.

Incubating and Raising Chicks

With artificial incubation, poultry eggs can now be hatched anytime, people no longer have to wait for a hen to go broody. Supplies needed for an artificial incubator are heat,



humidity, and turning. Turning the eggs can be done either by hand or with an automatic egg turner. This will mimic the mother hen turning the eggs, and keep embryo from sticking to membranes and causing malformations of the embryo.

Incubation period for poultry species varies, chickens - 21 days, Turkeys - 28 days, ducks - 28 days, geese - 30-32, while Muscovy geese - 33-35 days.

The only time chickens ever have teeth is when they have their egg tooth at hatching, it helps break through the egg shell.

It is important to be able to tell if the brooder that the chicks are in is the proper temperature. If they are spread evenly under the heat source, the temperature is perfect. If the chicks are all bunched up under the heat source, then it is too cold. If they are all far away from the heat source, or all to one side or another of the brooder, then it is too hot. In general, the temperature provided for growing chicks

should be about 95° Fahrenheit for the first week and drop by 5° per week until at ambient temperature.

Biosecurity, Mites, and Diseases

Biosecurity is a practice designed to prevent the spread of disease into your farm and flock. It means

preventing infectious or disease causing organisms and other pests, (insects, virus, bacteria, and rodents, etc.) from coming in contact with your birds. This can be accomplished is by keeping human traffic to a minimum, and not allowing contact with any sick birds, either directly or indirectly. Steps you can take are: keeping a foot dip pan filled with disinfectant near the door to your coop and dip your shoes or boots prior to entering your facility, designating one pair of shoes to wear into your coop, and washing hands (or using disposable gloves) before and after handling birds. It will prevent disease transmission to your birds.

The major external parasites of poultry are lice and mites. Make sure to check a chickens vent, under wings, on the skin under feathers by preen gland, and the general body area for external parasites.



Poultry should be checked every day, the best way to stay ahead of disease is to monitor and check birds often. At the first sign of a bird acting sick or different, separate and house them away from the flock. Be careful not to handle the sick chicken and then handle healthy birds. Always wash hands, change clothes and shoes when going between sick chickens and healthy chickens.

Four diseases in poultry are: Avian Influenza, Fowl Poxes, Marek's Disease, and Infectious Bronchitis.

Cleaning and Caring

Chickens do not require much in the way of grooming. They only need to be washed before shows. Making sure they are well rinsed and then fully blow dry them before

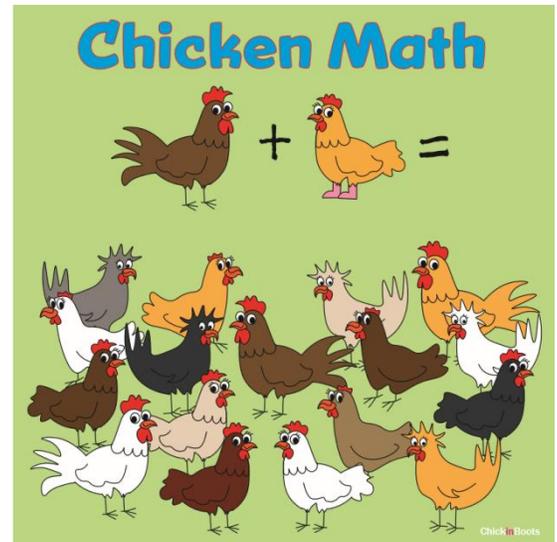


being put in their carrier. Chickens beaks and nails do occasionally require trimming. They should be checked, and trimmed as needed before each show. They can both be clipped with a nail clipper, the followed up with a nail file as needed. If the chicken is not shown, check nails and beaks every 4-6 weeks to see if they need trimming.

Other Miscellaneous Facts to Study

Other than feathers, a large comb and wattle, coloring, and spurs are anatomical features that are unique to the male chicken.

An adult male turkey has a beard and is larger than adult female turkeys.



The uropygial (preen) gland produces an oily substance the bird wipes onto its feathers with its beak, for preening. In ducks and waterfowl it helps to waterproof their feathers.

Most chickens have 10 primary feathers and 14-18 secondary flight feathers.

The crop on a chicken plays an important part in the digestion of its food. The crop is an enlargement of the esophagus and it is located on the neck just above the junction with the body cavity. It holds the food the bird eats and slowly releases it to the rest of the digestive tract.

Poultry Showmanship

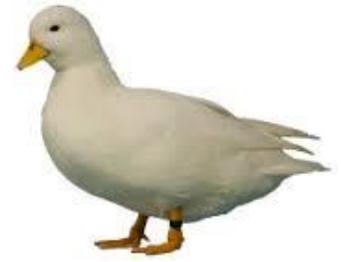
Cochin



Modern Game



Call Duck



Silkie



Japanese



Leghorn



Rhode Island Red



Belgian d'Uccle



Old English Game Bantam





Between steps always remember to look to the judge before going onto the next step. Wait until the judge acknowledges you before you go on to the next step.

Showmanship Steps:

- 1. Head:** Hold the birds head up with your fingers and look at its eyes, beak, and comb. Then turn the chicken, and do the same thing on the opposite side.
- 2. Wings:** Fan the chicken's wings out by pulling from the shoulder joint and gently pulling out the wing. You will want to spread out the feathers on the wing so that the judge can see. Turn the bird around and repeat on the other wing.
- 3. Undercolor:** Lift the feathers on the bird's saddle or neck and blow or run your hand the opposite direction of the feathers growth.
- 4. Width of Body:** Place your thumb and first finger around the widest part of the bird's body, or right behind the wing or shoulder joint. Show the measurement to the judge. **Width of body indicates the size of the body across the pelvic bones and room for an egg.**
- 5. Vent:** Flip the bird over and hold their back against your chest. Lower the bird slightly so that the head is facing you. Blow or part feathers to show the judge the vent.
- 6. Width between Pubic Bone:** See how many fingers can fit between the pubic bone and show the number to the judge. **The flexibility of the pubic bone is measured to see if it will open enough for an egg to pass through.**
- 7. Depth of Abdomen:** Measure the number of fingers you can fit between the end of the breast bone and the pubic bone. Show the measurement to the judge. **Depth of body indicates the size of abdomen and ability to hold a forming egg.**

- 8. Breast:** Feel with your fingers down the length of the breast bone.
- 9. Feet and Legs:** Turn the chicken so that the head is facing the judge. Then hold out the feet and legs of the bird and look them over. This is the last step of the showmanship examination routine. **The judge asks to see the feet and legs of the showmanship bird to check for deformities, diseases, and parasites.**
- 10. Caging the Bird:** Walk to the cage that the judge has pointed to, making sure to always face the judge. Place your bird in the cage head first, pose the bird based on the breed standard, and then shut the cage door. Step back, with your hands behind your back until the judge nods or asks you to remove your bird from the cage. Remove the bird from the cage, head first, close the cage, and then return to your place in line. **Birds should always be removed from and replaced into cages head first to prevent possible wing damage and to maintain control.**
- 11. Walking the Bird:** Always listen carefully to the instructions the judge gives you for walking your bird. Walk your chicken, remembering to use your pointer to keep your bird walking straight and in the right direction. To turn the chicken around, place the pointer at the bird's shoulder opposite the way you want them to turn. **NEVER TOUCH THE BIRD WITH YOUR HAND!!**

Please visit <http://ucanr.edu/sites/4-H-Fresno/files/25520.pdf>, to learn more about poultry showmanship.

Poultry Terms

A.B.A: American Bantam Association

A.P.A: American Poultry Association

A.O.S.B.: All Other Standard Breeds

A.O.C.C.L.: All Other Combs Clean Legged

Bantam: Small fowl (or miniature) that weigh less than 2 pounds at maturity.

Broody: A hen that covers eggs to warm and hatch them. Sometimes refers to a hen that stays in the nest for an extended period without producing eggs.

Candle: To examine the contents of an intact egg with a strong light source.

Capone: A castrated domestic cock fattened for eating.

Coop: The house or cage in which a chicken lives.

Cockerel: A male chicken under 1 year of age for exhibition purposes.

Cock: An adult male chicken over 1 year of age for exhibition purposes.

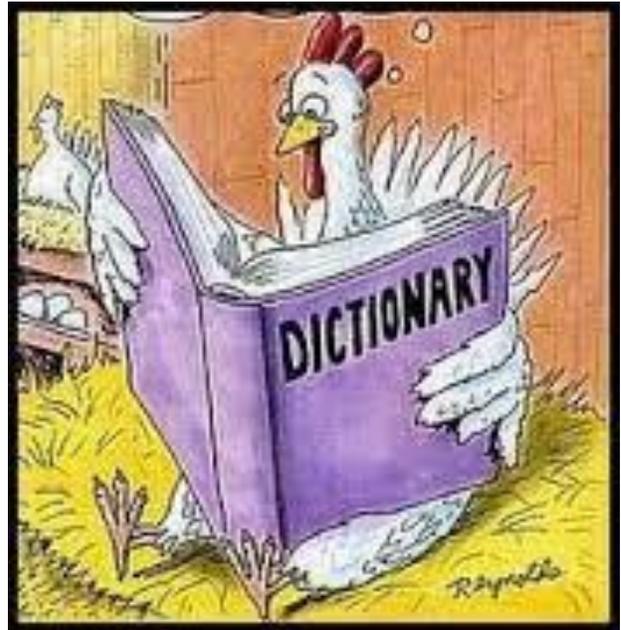
Drake: A male duck.

Dubbed/dubbing: A term used to describe the close trimming of the comb, wattles, and earlobes of the male chickens.

Dusting: The act of thrashing around in the dirt to clean their feathers and discourage body parasites.

Exhibition: Birds shown for their outward genetic expression (color patterns, body type and other characteristics).

Feather legged: Having feathers growing down the shanks, i.e., Cochins and Brahmas.



Fowl: Refers to chickens mostly, but also refers to most avian species. Nutrients – the individual components of a feed or ingredients required by an animal.

Gizzard: An organ that contains grit for grinding up the grain and plant fiber a chicken eats.

Hen: A female chicken over 1 year of age for exhibition purposes.

Pullet: A female chicken under 1 year of age for exhibition purposes.

RCCL: Rose Comb Clean Legged

SCCL: Single Comb Clean Legged

Standard bred: Large fowl that weigh more than 3 pounds at maturity.

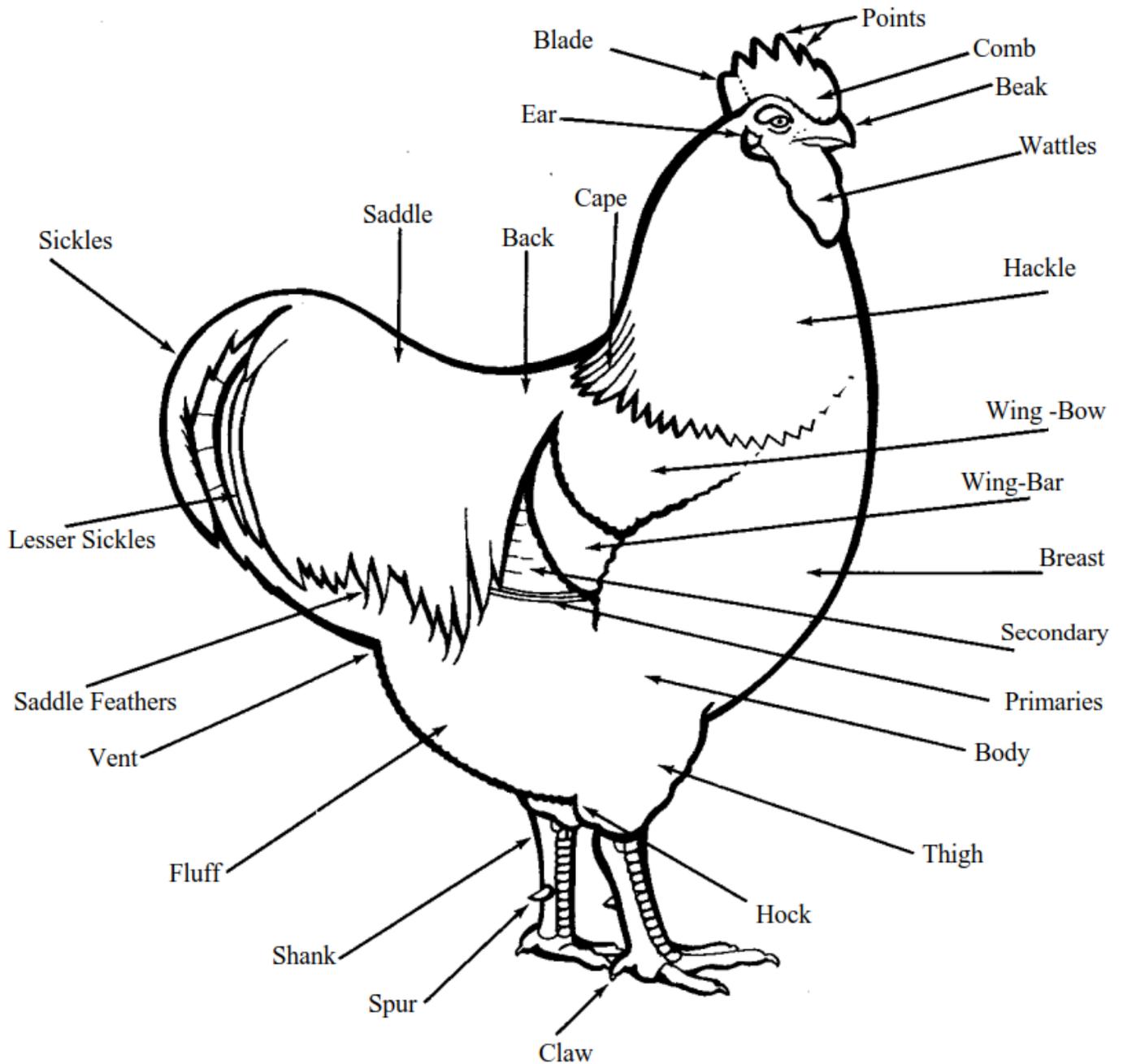
Sexed: Newly hatched chicks that have been sorted into pullets and cockerels.

Snood: The flap of skin that hangs over the turkey's beak.

Tom: A male of domestic turkeys.

Variety: Subdivision of a breed, according to plumage color, combs type, etc.

Chicken Body Parts



Poultry Combs



Single Comb - The single comb is attached to the chicken's skull in a straight line from the beginning of the beak to the back of the head. It features a series of 5-6 fleshy ridges called **points** from the front to the center and a thicker portion called the **blade** in the back. Its texture is smooth and soft.



Rose - The rose comb is a fleshy, solid, tube-shaped comb that extends from the top of the beak to the back of the head, ending in a pointed spike. The front two-thirds of this comb is covered in small, round bumps.



Pea - The pea comb features three ridges running lengthwise from the top of the beak to the top of the head, with the middle ridge a bit higher than the others.



Cushion - The cushion comb is round, small and solid, with no points or ridges. Starting at the upper portion of the beak, it extends a short way up the chicken's head.



Buttercup - buttercup comb features points from front to back. However, the buttercup comb is shaped like a crown, with a single leading point at the top of the beak and two ridges of points forming an almost circular, cuplike pattern on the chicken's head.



V-Shaped - The V-shaped comb consists of two thick points extending to the left and the right, perpendicularly from a singular base at the top of a chicken's beak.



Strawberry - strawberry comb has a bumpy, rough surface, similar to the outer texture of a strawberry fruit.



Walnut - The walnut comb is a medium-sized, solid comb. It gets its name from the characteristic furrowing on its surface, similar to the outer appearance of a walnut shell.

Poultry Equipment and Identification

Study and be able to identify the following:

- Poultry Waterer
- Automatic Egg Turner
- Walking/Judging Stick
- Clippers/Trimmers
- Chick Feeder
- Incubator
- Candler
- Heat Lamp
- Transportation Cage
- Brooder
- Thermometer
- Leg Bands
- Egg Cartons
- Wing Band
- Poultry Water Nipple



- Scratch
- Laying Pellets
- Laying Crumble
- Oyster Shells
- Meal Worms
- Cracked Corn
- Game Bird Mix